We claim:

1. A method for provisioning a target computer with an operating system, the method comprising the steps of:

booting the target computer in a pre-operating system environment;

collecting configuration information for the target computer;

transmitting the configuration information to a predetermined server;

searching a database in the server for a pre-existing operating system image corresponding to the configuration information from the target computer;

if a corresponding operating system image is found, transferring the pre-existing operating system image to the target computer; and

installing the pre-existing operating system image on the target computer.

2. The method of claim 1, the method further including the steps of:

if no corresponding pre-existing operating system image is found, constructing an operating system image for the target computer using the configuration information;

transferring the constructed operating system image to the target computer;

installing the constructed operating system image on the target computer; and

storing the constructed operating system image and the configuration data in the database in the server.

3. The method of claim 1, the method further including the steps of:

if no corresponding pre-existing operating system image is found, running an install script on the target computer to construct an operating system for the target computer;

imaging the operating system constructed on the target computer;

uploading the constructed operating system image from the target computer to the predetermined server; and

storing the constructed operating system image and the configuration data in the database in the server.

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4. The method of claim 1, where the configuration data includes at least one of a microprocessor identifier, a blade slot location, a memory size, a storage disk size, a manufacturer identifier, a model identifier, a network location identifier, a role identifier, a network interface card identifier, a bus identifier, a user identifier, electronically inscribed identification information, and a storage device identifier.

5. The method of claim 1, where the configuration information includes policy criteria data corresponding to the target computer.

6. A system for provisioning an operating system on target computers over a network, the system comprising:

at least one target computer configured to respond to initialization by requesting a network address for communication over the network, respond to receiving the network address by requesting a boot file over the network, respond to receiving the boot file by executing the boot file in a pre-operating system environment to create a client agent, where the client agent is configured to perform an inventory of the target computer to collect configuration data and transmit the configuration data in a request for an operating system image to a predetermined server, the client agent being further configured to receive an operating system image and, responsive thereto, install the operating system image on the target computer and execute the operating system;

a network address server configured to monitor the network for the request for a network address and, responsive thereto, allocate the network address for communication over the network and return it to the requesting device;

a boot server configured to monitor the network for the request for the boot file and, responsive thereto, transmit the boot file to the requestor; and

an operating system management server configured to monitor the network for the request for an operating system image, receive the request along with the configuration data, use the configuration data to search for a corresponding operating system image and, if the corresponding operating system image is found, transmit the corresponding operating system image to the target computer.

7. The system of claim 6, where:

the operating system management server is further configured to transmit a failure message to the target computer when no corresponding operating system image is found;

the client agent on the target computer is further configured to receive the failure message and, responsive thereto, execute an install script on the target computer to construct an operating system, image the operating system, and upload the operating system image to the operating system management server; and

the operating system management server is still further configured to receive the operating system image constructed on the target computer and store it along with the configuration data for the target computer.

8. The system of claim 6, where the operating system management server is further configured, when no corresponding operating system image is found, to construct an operating system image based on the configuration data from the target computer and transmit the constructed operating system image to the target computer.

9. The system of claim 6, where the client agent on the target computer is further configured to collect user input for inclusion in the configuration data.

10. The method of claim 6, where the configuration data includes at least one of a microprocessor identifier, a blade slot location, a memory size, a storage disk size, a manufacturer identifier, a model identifier, a network location identifier, a role identifier, a network interface card identifier, a bus identifier, a user identifier, electronically inscribed identification information, and a storage device identifier.

11. The method of claim 6, where the configuration information includes policy criteria data corresponding to the target computer.

12. A method for determining an operating system for target computers over a network, the method comprising the steps of:
    booting a target computer in a pre-operating system environment;
    collecting policy criteria data for the target computer;
    transmitting the policy criteria data to an operating system management server;

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providing policy data defining a relationship between specific policy criteria data instances and operating system image instances;

resolving an appropriate operating system image for the target computer based on the policy criteria data from the target computer and the policy information; and

transmitting to the target computer an operating system object identifier corresponding to the resolved operating system image.

13. The method of claim 12, the method further comprising the steps of:

receiving the operating system object identifier corresponding to the resolved operating system image in the target computer;

requesting download of the operating system image file corresponding to the operating system object identifier; and

installing the operating system image and executing the operating system responsive to receiving the operating system image file in the target computer.

14. The method of claim 12, the method further comprising the steps of:

receiving the operating system object identifier corresponding to the resolved operating system image in the target computer;

checking whether the operating system object identifier corresponds to an operating system currently installed on the target computer;

if the operating system object identifier does not correspond to the operating system currently installed on the target computer, requesting download of the operating system image file corresponding to the operating system object identifier, receiving the operating system image file in the target computer, installing the operating system image, and executing the operating system; and

if the operating system object identifier does correspond to the operating system currently installed on the target computer, executing the operating system currently installed on the target computer.

15. The method of claim 11, where the policy criteria data includes at least one of a microprocessor identifier, a blade slot location, a memory size, a storage disk size, a manufacturer identifier, a model identifier, a network location identifier, a role identifier, a

network interface card identifier, a bus identifier, a user identifier, electronically inscribed identification information, and a storage device identifier.

16. A system for installing an operating system on a target computer using a network, the system comprising:

       means for collecting configuration information for the target computer in a pre-operating system environment;

       means for requesting download of an operating system image that corresponds to the configuration information for the target computer;

       means for identifying an operating system image that corresponds to the configuration information from the target computer;

       means for downloading an operating system image that corresponds to the configuration information from the target computer if the corresponding operating system image is found; and

       means for installing and executing the corresponding operating system image on the target computer.

17. A method for constructing a set of operating system images for a target computer, the method comprising the steps of:

       booting the target computer in a pre-operating system environment;

       collecting configuration information for the target computer;

       transmitting the configuration information to a predetermined server;

       searching a database in the server for a set of pre-existing operating system images corresponding to the configuration information from the target computer;

       for each one of the operating system images in the set, if the operating system image is not found, then running an install script on the target computer to construct an operating system for the target computer, imaging the operating system constructed on the target computer, uploading the constructed operating system image from the target computer to the predetermined server, and storing the constructed operating system image and the configuration data in the database in the server.